Atikokan District Fisheries Management Plan 1988 - 2000

Ontario

Ministry of Natural Resources

Vincent G. Kerrio
Minister

Atikokan
District Fisheries
Management Plan
1988 - 2000

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PREFACE

This Fisheries Management Plan provides the proposed long-term and short-term planning for the management of the fisheries resource within Atikokan District. Planning directives will be presented for the long-term management of the fisheries resource until the year 2000. Specific directives for the first five years are also presented in terms of specific management actions which are to occur on specific waterbodies at a specific time.

Two draft Plans and a Summary document of Background Information preceded this Final Plan. Public consultation is an integral part of the District fisheries management planning process, and is critical in identifying and evaluating management strategies and options. Public review has followed the release of all documents. Public responses were mostly written but some comments were given verbally and documented. Comments and ideas from all participants were summarized and incorporated into subsequent documents as much as possible. An analysis of public review is on file.

Direction in this Plan has been provided by previous planning exercises. Strategic Planning for Ontario's Fisheries (SPOF) provided the general framework for fisheries management planning in the province. The Northwest Ontario Strategic Land Use Plan (SLUP) and the Atikokan District Land Use Guidelines (DLUG) are the plans which serve as a design for integrated resource development and use in this area. During the fisheries management planning, two amendments to DLUG were developed and approved after public consultation.

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1.0 INTRODUCTION

1.1 Purpose

The purpose of the Atikokan District Fisheries Management Plan (D.F.M.P.) is to establish both long-term and short-term planning direction to the management of the fisheries resource within Atikokan District. Planning directives are presented for the long-term management of the fisheries resource until the year 2000. The short-term management portion of the plan is based on the long-term management directives and will be the actual management actions which will occur over a 5-year planning period. Annual work plans will be developed according to the fisheries management implementation schedule contained herein.

The Atikokan District Land Use Guidelines (DLUG) provided the broad program objectives and targets used in the preparation of the Fisheries Management Plan. This planning exercise was completed in 1983 and provides guidelines for all the District's resource management programs. Included within this document were fisheries targets, some of which were refined in this fisheries management planning exercise because more up-to-date information was available. The Plan states where, when, and how these targets will be met. In some cases, objectives and targets presented in DLUG were refined through the fisheries management planning process.

The Strategic Planning for Ontario Fisheries (SPOF; OMNR 1974) document also provided clear technical direction for the preparation of Fisheries Management Plans. This planning exercise was developed in the 1970's to provide a Ministry-wide strategic planning overview for Ontario's fisheries. All operational components of this Plan are subject to the

requirements of the Environmental Assessment Act (R.S.O. 1985).

This Fisheries Management Plan contains the following information:

1) A brief summary of the fisheries resource, its current use and projected use to the year 2000, and explanation of how the targets were derived.

2) A general discussion of the management direction used to derive the specific fisheries management objectives; and,

3) A proposed implementation schedule, which lays out on a year-by-year and lake-by-lake basis what specific fisheries management projects will be done in the next 5 years (1988-1992).

The Fisheries Management Plan represents the time period from the present until the year 2000 in order to coincide with the District Land Use Guidelines planning time frame. Reviews of this Plan will be scheduled at minimum five-year intervals or when major revisions are required. Any significant changes in this plan must reflect the District Land Use Guidelines, and will involve public review and approval by the District Manager and Regional Director.

1.2 Fisheries Management Planning Process

The development of a fisheries management plan represents the final product of a systematic planning process. The following summary outlines the steps taken in producing the Atikokan District Fisheries Management Plan.

1) A Terms of Reference, outlining the planning process which is being undertaken, was prepared early in 1986.

2) A report entitled "A Summary of Background Information and Optional Management Strategies" was produced for review by the public in 1986. As the title suggests, it summarized the background information used to provide the rationale for the fisheries management strategies and tactics which followed.

3) A public meeting, a forum for presenting this Summary Report and soliciting public input, was held in November 1986.

4) A first Draft of the Management Plan based on public review of optional strategies and tactics was prepared. This contained planning perspectives, objectives, and selected strategies and tactics; a general five-year implementation schedule was laid out.

5) A second public meeting was held in July 1987, at which the first Draft of the Management Plan was presented and public review was solicited.

6) A revised Draft of the Management Plan was prepared. This was prepared because more strategies and tactics were proposed than were included in the first draft. It was felt that public review would again be beneficial.

7) A third public meeting was held on February 29, 1988 to present the revised Draft Plan; public input was again solicited.

8) The final Atikokan District Fisheries Management Plan (current document) incorporated all revision based on public and internal review.

2.0 BACKGROUND INFORMATION

2.1 Introduction

Atikokan District is one of the five districts of the North Central Region. Its location within the Region is shown on Figure 1 and a more detailed map of the District is shown on Figure 2.

Atikokan District is located on the Canadian Shield in the section known as Superior province. The geology of this area is characterized by bedrock of Precambrian age (2.5-3 billion years old) and by shallow soils comprised of sand and gravel. The topography of the District is characterized by gently rolling hills and bedrock outcrops interspersed with thousands of lakes, stream, and ponds. Many of these lakes are very small with surface areas of less than 25 ha. The productivity of District waterbodies tends to be low because of

FIGURE 1:

ATIKOKAN DISTRICT REGIONAL AND PROVINCIAL SETTING

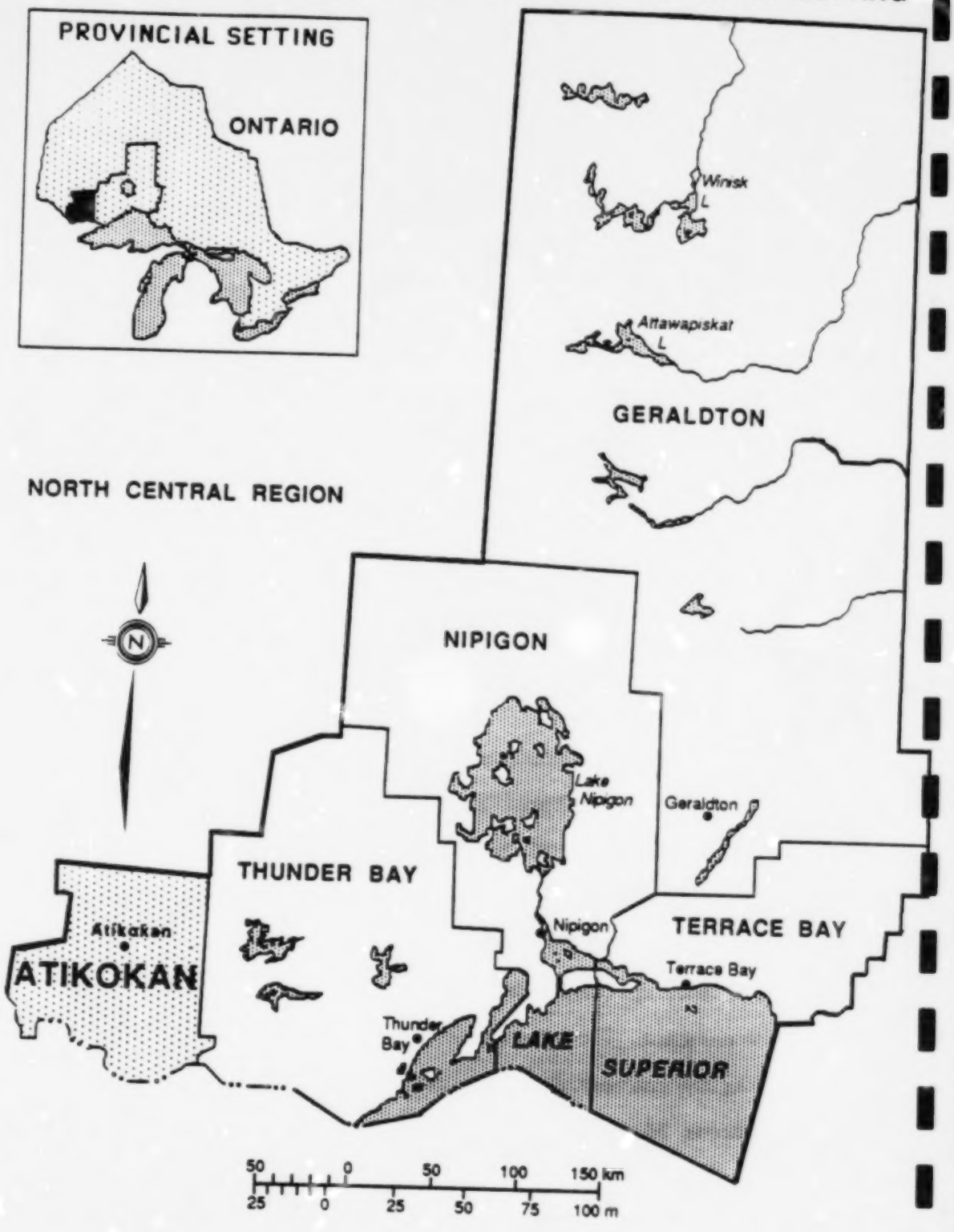
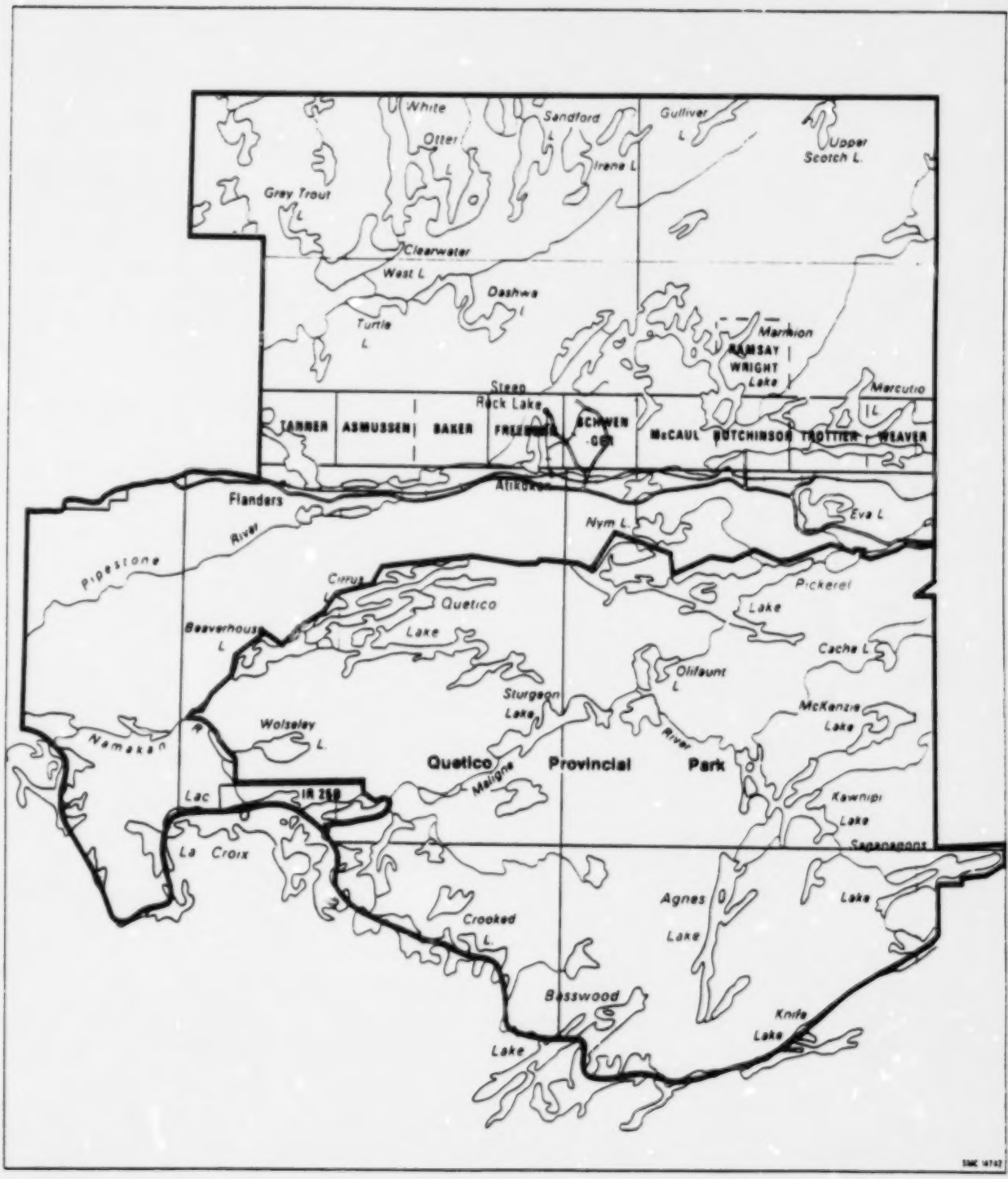


FIGURE 2. ATIKOKAN DISTRICT



10 0 10 20 30 km
5 0 5 10 15 20 m

the low solubility of the bedrock and the nature of the soils, which limits the dissolved nutrients in the water.

The total surface area of the District is 11,321 square kilometres, of which 4,727 square kilometres, or 42%, is Quetico Provincial Park. The population of the District is about 5,500 people, of which 4,700 people live in the town of Atikokan, 35 live around Sapawe and about 250 live on the Neguaguon Lake Indian Reserve on the north shore of Lac la Croix.

The District lies wholly within the Winnipeg-Nelson drainage basin. Three rivers, the Seine, Atikokan and Maligne Rivers drain the District and waterflow is westerly and northerly, ultimately to the Arctic Ocean.

2.2 The Resource

There are 1,734 lakes and rivers within the District, covering a total surface area of 227,636 hectares or 20% of the District surface area (Figure 2 and Table 1). To date, 214 lakes have been surveyed or 48.3% of the total District surface area, and species information is available for an additional 152 unsurveyed waterbodies. There are 1,354 unsurveyed lakes (61,786 ha) for which there is no species information on file. The majority of these lakes are less than 25 ha. A large number of them undoubtedly contain one or more warmwater fish species and many may be important for baitfish production.

Coldwater lakes are deep, clear and cold lakes with high dissolved oxygen levels which favours species like lake trout and lake whitefish. There are 153 surveyed coldwater lakes, most of which contain lake trout, the only indigenous salmonid species in the District. The total area of all coldwater habitat is 105,550 ha or 46% of all waters. Repeated plantings of rainbow and brook trout in the past did not apparently result in self-sustaining populations

TABLE 1: SUMMARY OF FISHERIES RESOURCE INVENTORY DATA, ATIKOKAN DISTRICT

Water	No.	Total Area (ha)	Total Productive Area (ha)	Total Estimated Potential Yield (kg/ha/yr)	Total Estimated Potential Yield (kg/yr)
Surveyed Coldwater Lakes	100	73,220	73,141*	1.47	107,620
Surveyed Warmwater Lakes	114	36,096	35,740*	2.76	98,515
Unsurveyed Coldwater Lakes	53	32,328	32,328		50,341
Unsurveyed Warmwater Lakes	99	22,677	22,658*		70,497
Coldwater Rivers and Streams	0	—	—		—
Warmwater Rivers and Streams	14	1,529	1,529		4,225
Unknown	1,354	61,786	61,786		189,044
TOTAL	**1,734**	**227,636**	**227,182**		**511,242**

* Total area is greater than Total Productive Area because it includes lakes in which no sports fish species are found

of these species. Most coldwater lakes contain lake whitefish and other sportfish species like walleye and northern pike.

One hundred and thirty-seven lakes have been classified as "prime" lake trout lakes, containing high quality self-sustaining populations (Appendix 1 and 2). The protection and maintenance of these prime lake trout lakes is a major fisheries objective identified in the Atikokan District Land Use Guidelines.

Warmwater lakes are relatively shallow, fertile, warm lakes which support sports species like walleye, northern pike and smallmouth bass. Northern pike is the most common species, known to inhabit 311 waterbodies, but walleye lakes are also abundant (215 lakes). Smallmouth bass, although a naturally occurring species, has been introduced into most of the 87 waterbodies in which it is now found.

Lake sturgeon are found in a few District lakes, including Sandpoint Lake, Lac la Croix and Sturgeon Lake. The former is a commercially exploited population but the latter is found within Quetico Provincial Park and offers excellent, if unutilized sturgeon sport fishing. Lake whitefish are found in many district waterbodies but there is little angling for this species.

There are no coldwater streams in Atikokan District and there are 14 warmwater rivers which contain northern pike, smallmouth bass and walleye. There are also innumerable creeks and streams which may contain some sports species but are not considered to be productive for sports fishing in this Plan.

Quetico Provincial Park has abundant lakes, many of which contain lake trout. In fact, 50% of Atikokan District's prime lake trout lakes are located within the park (Appendix 1). Walleye and northern pike abound in most lakes; smallmouth bass now exist in many lakes as a result of introductions. Mechanized forms of travel are not permitted in Quetico except for trappers

and licenced members of Lac la Croix Guides Association who may operate motors of 10 hp or less on seven waterbodies. Overharvesting is not suspected to be a problem in any of Quetico's lakes, except for a few lakes which are road accessible or nearly so, such as Beaverhouse and French Lakes. The lakes on Quetico's south border are shared with Minnesota's Boundary Waters Canoe Area where motor boats are also not allowed (except on Minnesota's part of Basswood Lake). There has been little information on harvest collected in Quetico Provincial Park.

"Total potential yield" is a term referring to the total weight of all fish that can be removed from waterbodies annually on a sustained basis. The total potential yield for all District waterbodies is 511,240 kg. per year (Table 1). "Total allowable yield" refers to the yield of preferred fish species that can be removed from waterbodies on a sustained basis. This value is 283,670 kg., and the individual allowable yield for each species is presented in Table 2. The difference between total potential yield and total allowable yield, or 225,570 kg, may include species such as yellow perch, black crappie, lake sturgeon and many others.

2.3 Resource Use and Projections

Sport Fishing - Sports angling represents the greatest use of the fisheries resource of Atikokan District. Because of the abundance of lakes, of which about half are deep, coldwater lakes, angling is excellent for a number of species, particularly lake trout, walleye, northern pike and smallmouth bass. Lake whitefish are infrequently sought. Angling alternatives are provided by yellow perch, black crappie, burbot and lake herring.

According to an 1980 survey of Ontario's anglers, there are 16,200 anglers

who fish in Atikokan District for a total of 104,000 angler days (one angler day equals 4 hours); these figures were used to estimate an annual harvest of about 225,000 kg. of sportfish (Table 2). Northern pike and walleye were the most popular target species accounting for 102,240 kg. (45%) and 74,500 kg. (33%) of the total catch respectively (Bedi and Clifford 1981; Table 2).

It is assumed that angling pressure will increase by 18% by the year 2000; this figure represents a projected increase of 25% in non-resident use and 0% in resident use (Central Statistical Services, Ministry of Treasury and Economics). This increase will mean a projected annual angling pressure of 122,720 angler days or 266,570 kg per year. This represents a quality standard of 2.2 kg per occasion. A more detailed discussion of current and projected use as they relate to DLUG targets is presented in Section 2.4 (Target Testing).

Area Tourism - The importance of angling to the local tourism-based economy is emphasized by the fact that 73% of angling is by non-residents, principally from northern and midwestern United States. The projected increase in angling pressure reflects a growth in non-resident use, which will result in increased economic benefits to all segments of the local economy.

In July 1986 the Ministry of Tourism and Recreation released the Atikokan District Tourism Development Study (Hough, Stansbury and Michalski Ltd. 1986) which contains a detailed analysis of the local tourism industry. There are 35 commercial tourist businesses in the Atikokan District providing private accomodation and/or camping facilities to anglers. A total of 25 of these are resorts while 10 are outpost operations, which may be operated by outfitters that have a base outside the District. There are 39 outpost camps

TABLE 2: TARGET REFINEMENT FOR ATIKOKAN DISTRICT

	Current Use		Projected Use		DLUG Target		Allowable Yield	Interim Refined Target	
	kg.	Angler Day	kg.	Angler Day	kg.	Angler Day	kg.	kg.	Angler Day
Commercial Fishery									
Baitfish*	113,170	—	133,540	—	No target	—	—	To meet demand	
Foodfish	2,000	—	13,900	—	12,000	—	13,900	12,000	
Sport Fishery Users:									
Residents	60,755	28,080	—	—	—	—	—	—	—
Nonresidents	164,270	75,920	—	—	—	—	—	—	—
TOTAL	225,025	104,000	266,570	122,720	—	—	283,670	240,000	120,000
Assemblage									
Lake Trout	28,970	—	32,360	—	—	—	34,550	—	—
Walleye	74,500	—	87,880	—	—	—	74,580	—	—
Northern Pike	102,240	—	120,305	—	—	—	73,230	—	—
Smallmouth Bass	19,320	—	23,020	—	—	—	31,420	—	—
Lake Whitefish	—	—	—	—	—	—	39,890	—	—
Other	—	—	—	—	—	—	30,000	—	—
Total	**225,025**	**104,000**	**266,570**	**122,720**	**240,000**	**120,000**	**283,670**	**240,000**	**120,000**

* in dozens

located on 29 lakes, the majority of which are scattered throughout the northern portion of the District in areas not yet road accessible. In addition, there are 15 outfitting operations catering to canoeists.

Direct sales (accomodation, meals) for establishments providing tourist accomodation are approximately $6 million annually. In addition, it is estimated that guests at tourist establishments providing accomodation contribute $10.2 million in direct and indirect sales (groceries, supplies, souvenirs) to the local economy, annually.

Several lakes have been identified in D.L.U.G. as having outpost camp or resort development potential. The Michalski tourism study has identified additional areas where the development of new tourism opportunities may be feasible. As a result of the recommendations made in the tourism development study, proposed lakes for outpost camps are under review and may be amended in the near future.

Anglers are also drawn to the District by Quetico Provincial Park. The 1984 Interior Visitor survey indicates that angling is a major reason for people visiting the Park.

Commercial Food Fish - Although commercial fishing has occurred on several District waterbodies in the past, there is only one active licence at the present time. This licence is for Sandpoint Lake, which is located on the U.S./Ontario border in the southwest corner of the District. This is a summer lake whitefish/coarse fish fishery with a small quota for lake sturgeon. The mean total harvest annually is 2,300 kg; the fisherman maintains a quota of 2,000 kg. for whitefish, 185 kg. for lake sturgeon, small quotas for northern pike and walleye, and an unlimited quota for cisco, suckers, and burbot.

There are several additional lakes which could sustain a harvest of lake whitefish and/or cisco, an underutilized resource. The District's total allowable yield for whitefish is 39,890 kg. (Table 2); when the yield from waterbodies not suitable for commercial harvest (because they are located within Quetico Provincial Park, or are prime lake trout lakes, or are inaccessible) is subtracted from this, a total allowable yield of 13,900 kg. of potential whitefish harvest remains (see Appendix 3).

Commercial Baitfish - As of 1985, there were 18 licenced baitfish harvesters in the District, and 23 licenced baitfish dealers; many of the latter are also harvesters. A block harvesting system is utilized whereby each harvester is assigned one or more unique blocks as his exclusive harvesting area. This works very well to eliminate competition between harvesters and enables each harvester to manage the harvest by licenced block(s). In 1985, the value of the 131,700 dozen baitfish harvested was $173,350. The average baitfish harvest (1981-1985) was 113,170 dozen (Table 2). Baitfish harvest projected to the year 2000 is 133,540 dozen, assuming an increase of 18% in angler demand.

Indian Harvest - The Neguaguon Lake Indian Reserve, the only Indian community in Atikokan District is located on the north shore of Lac la Croix. No commercial fishing licences are held by band members. Although band members probably utilize the fishery resource more than the average resident, there is no information to quantify the harvest. Band members who are also members of the Lac la Croix Guides Association provide guiding services to tourists, mainly Americans, and are allowed to operate small boats and motors on selected lakes within Quetico Provincial Park while guiding.

Recognition is given to special fishing rights, such as subsistence fishing, which were granted to Treaty Indians. The Atikokan District is included in Treaty 3, which was signed in 1873. In February, 1986, the Ontario and Federal governments agreed with Indian leaders to negotiate Indian Fishing Agreements. Amendments to this Plan will occur if an Indian Fishing Agreement necessitates changes.

2.4 Target Testing

As mentioned earlier, one of the mandates of the fisheries management planning exercise is to test the fisheries targets expressed in the District Land Use Guidelines (DLUG). Targets are helpful because they provide direction to fisheries management programs.

The DLUG sportfishing target is to meet an anticipated angling demand in the year 2000 of 120,000 angler days at an angler satisfaction level of 2 kg. of fish per angler day, or, 240,000 kg. of fish per year. These projections were based upon a current harvest estimate of 208,000 kg. per year. During the fisheries management planning process, current harvest figures were refined and the total current harvest is now estimated to be 225,025 kg. per year. This harvest is anticipated to increase to 266,570 kg. per year (18%) by the year 2000. Because the difference between the figures presented in DLUG and the new figures presented here is not substantial, and because the new figures do not result in any changes in management direction, a DLUG amendment is not necessary at this time.

When the revised figures of 225,025 kg. of current harvest and 266,570 kg. of projected harvest are examined with respect to the total allowable yield (283,670 kg.) it shows that in general our fisheries resource appears capable of

sustaining future harvest demand. Management efforts should be directed at maintaining the quality of the angling experience, as there appears to be adequate fisheries resource to meet the demand in the year 2000.

The broad lake trout target as expressed in DLUG is to produce .25 to .75 kg. of lake trout per ha per year. This is a broad range, and the current allowable yield of 0.33 kg/ha/yr falls safely within this range. However, the specific District target expressed in DLUG of 0.46 kg/ha/yr is too high because it exceeds the allowable yield. The DLUG specific target has been amended to be at the allowable yield, or 34,550 kg/year or 0.33 kg/ha/yr.

The DLUG target for commercial food fishing is to produce 12,000 kg. of commercial fish by the year 2000. The allowable yield for commercial fish is 13,900 kg. which is actually the calculated allowable yield for lake whitefish (only). Lake sturgeon and coarse fish are not included in this value. The DLUG target remains at a rounded-off figure of 12,000 kg. per year. This indicates that there is potential for more commercial fishing opportunities in Atikokan District.

There is no commercial baitfishing target in DLUG. Baitfish harvest is projected to be 133,540 dozen in the year 2000. A numerical DLUG target has not been stated. Instead, DLUG has been amended to include a target for baitfish: "to meet the demand" in the year 2000.

2.5 Overview of Problems and Issues

A brief overview of problems and issues relating to fisheries management in Atikokan District follows.

i) Loss of Fish and Fishing Opportunities

Broad analysis of current use and future expected use shows that our fisheries resource should be able to meet the demands placed upon it until the year 2000. These figures are District averages and as such do not indicate localized problems of overharvest. The need for an increased data base is discussed in Section (V). Presently, knowledge of potential problem areas is based largely on District staff observations.

Sixteen lakes are suspected to have declining sport harvests or angling quality (smaller fish) resulting from intensive summer and winter angling. These lakes are:

Lake Trout Lakes:

Crystal
Factor
Marion
McCauley
Nym
Pekagoning
Van Nostrand
Warner
White Otter

Walleye/Northern Pike Lakes:

Crooked Pine
Keewatin
Marmion
Mercutio
Old Man
Pinecone

Other lakes have been identified through public consultation as being potentially overharvested, including Finlayson, Turtle, Dashwa, Crowrock and Williamson.

Law enforcement is a management tool necessary to ensure compliance with regulations governing people's use of the fisheries resource. Although routine checks of anglers for compliance with open seasons, catch limits and licences predominate, occasionally the following types of illegal harvest are encountered:

- taking home a limit of fish which do not include the "shore lunch" of fish eaten during the day
- illegal gill netting
- spearing or dipping of walleye from spawning locations
- "fishing-up", a technique where a limit of fish are held, often on a stringer, and replaced with larger fish as they are caught throughout the

day. Mortality to held fish is often high.

A concern expressed through public input into the planning process is that in years when spring comes a little early, the April 14 closing of walleye season is not adequate to protect walleye which move into some pre-spawning staging areas early. They are very susceptible to angling at this time and large numbers of mature walleye are removed.

Illegal introductions of smallmouth bass in the past have affected species composition and probably increased competition between fish species and predation in some warmwater fisheries. Exactly what kind of changes have occurred is unknown, but bass have spread and become established throughout entire watersheds.

There is a large number of lakes and rivers that Ontario shares with the state of Minnesota. These boundary waters require special management considerations. Effort has been made in the past to standardize fishing regulations between the two jurisdictions or shared waterbodies but there are still some inconsistencies which remain. There has been little data collection on these border waters because of their inaccessibility and the motor ban on both sides of the border.

Locally, there appears to be resentment of the motor boat and mechanized vehicle ban in Quetico Provincial Park. There is also local sentiment that Quetico could be used as a source of adult walleye for the transfer program. Quetico is classified as a wilderness park and present policies do not permit these activities.

ii) Commercial Food and Baitfishing

There is only one commercial food fisherman at the present time, but

there is a potential for other fisherman who could harvest the underutilized lake whitefish resource. Concern has been expressed because of potential incidental harvest of sports fish species. There is limited interest in a commercial whitefish operation using impounding gear only.

The local baitfish industry has experience many beneficial changes recently, including the implementation of a unique block licencing system.

iii) Environmental Quality/Habitat Loss

The construction of the Ontario Hydro coal-powered generating station, about 10 km north of Atikokan on the Bending Lake Road, resulted in several water diversions and the construction of several dams. Major impacts to fisheries now include water level fluctuations (which can be severe on the Seine River System) and the discharge of warm water.

Any impacts of timber management activities on fish habitat are controlled through the use of Crown Land Timber policies and "Timber Management Guidelines for the Protection of Fish Habitat". These are designed to minimize or mitigate any adverse impacts of timber operations, particularly on important fisheries habitat. Unfortunately, the location of all fish spawning locations is not known which can mean that some areas are not adequately protected. Stream crossings can be constructed in an environmentally sound manner using available information and "Environmental Guidelines for Access Roads and Water Crossings" (OMNR 1988b).

Shoreline reserves are currently placed around coldwater lakes and feeder streams, and around warmwater lakes where required to prevent soil erosion and siltation into the lake, water temperature fluctuations, and for other considerations (see DLUG for details). The new "Timber Management

Guidelines for the Protection of Fish Habitat" provide a comprehensive tool to be used during planning and implementation of timber management operations. The Fisheries Act and the Lakes and Rivers Improvement Act are other useful tools.

District lakes are not highly developed for cottages, although development pressures are ongoing. MNR's program called "Crown Land as a Development Tool" emphasizes cottaging as a means of developing local economies (identified in DLUG). Development is not currently permitted on prime lake trout lakes. As development pressures increase, prime lake trout lakes will come under scrutiny for their potential for cottages. Strategies for the protection of lake trout lakes are clearly laid out in DLUG.

Eighteen District lakes have been tested for contaminants, and although there are no industrial sources of pollution, there are eating restrictions on some species of fish at larger sizes because of mercury or a combination of mercury, mirex, PCB's or other pesticides. The "Guide to Eating Ontario Sport Fish" (OMOE/OMNR 1988) is an important source of information for anglers, particularly if they eat a lot of large-sized fish.

iv) Communicating With the Public

Communicating with the public is an important component of any fisheries management program. Public education in Atikokan District currently involves enquiries taken over the telephone, information articles printed in the local newspaper, visits to the office by members of the public, and presentations made at the local conservation club. There are currently few fisheries-related presentations in local schools. It is expected that the public demand for information and involvement in fisheries management programs will increase in

the future.

v) **User Conflicts**

Conflicts between users of the resource is a problem experienced in this District. Despite the importance of tourism to the local economy, some local residents view non-residents as being in competition with them for the fisheries resource. Some non-residents fish here on a day-use basis but do not contribute to the local economy. Crown land camping restrictions which restrict where non-residents may camp will shortly be in place in Atikokan District. Other measures are being developed which will have implications to non-resident anglers.

Access is a controversial problem which affects where and how angling occurs. For example, the creation of forest access roads in the next few years will make a number of very small unproductive lake trout lakes in the northwest corner of the District accessible to anglers for the first time. Access in this District is controversial because some people are in favour of forest access roads remaining open once the timber has been extracted. MNR (through DLUG) may choose to close or restrict access to control harvest in some situations where resources are over-used. Some remote outpost tourist operations have requirements for isolation which means careful planning of access roads for the protection of remote tourism values. This brings them into conflict with resident anglers who generally believe that once access is created, it should be maintained for their use.

v) **Lack of Scientific and Technical Knowledge**

Lack of scientific and technical knowledge is an important problem that

affects effective delivery of fisheries management problems. There are 2 aspects to this problem. The first is that there is a need for !ake specific information on District lakes suspected of overharvest, including user and harvest information and data on fish populations and community structure. Lack of this information limits the development of effective management programs. The second aspect is that there is an ongoing need to increase our understanding of the principles of fisheries ecology and management, information which may be applied to District management problems. An example of this is improved techniques used to determine potential and allowable yield to providing more reliable estimates of resource availability.

3.0 MANAGEMENT DIRECTION, STRATEGIES AND TACTICS

3.1 General Fisheries Management Objective

The Northwestern Ontario Strategic Land Use Plan (S.L.U.P.) introduced a broad fisheries management objective based on the recommendations of the Federal-Provincial Project for Strategic Planning for Ontario Fisheries (S.P.O.F.). This objective is to: "protect, enhance and maintain Ontario's fish communities and their environment to provide optimum contribution of fish, fishing opportunities and associated benefits to society".

As presented in the Atikokan District Land Use Guidelines (D.L.U.G.), the O.M.N.R. will achieve this policy by:

- using available knowledge to the fullest to manage fisheries more effectively and reduce conflicting uses of the environment;
- maintaining and, where necessary, rehabilitating aquatic environments;
- preventing overfishing by monitoring fish communities for signs of stress and adjusting permitted harvests accordingly;
- allocating the allowable harvest of the fisheries resource among user groups to provide the optimum mix of benefits, based on an objective and

careful examination of all relevant biological, social and economic factors to ensure that optimum benefits accrue to the residents of Ontario and that a healthy, balanced fish community is maintained;

- developing an expanding knowledge base through the collection and analysis of resource inventory surveys, and by monitoring the impact of experimental management programs;

- encouraging public awareness of the issues involved in fisheries management and developing mechanisms for public involvement in management decision-making;

- enforcing current fisheries regulations consistently, equitably and effectively while ensuring that both anglers and commercial fishermen participate in cooperative management and adhere to their catch limits and quotas in order to protect the fish stocks and guarantee their perpetuation for the future.

3.2 Specific Fisheries Management Objectives, Strategies and Targets

The Atikokan District Land Use Guidelines (D.L.U.G.) outlines specific sportfish, lake trout and commercial fish objectives and targets. A series of strategies and tactics has been developed during the fisheries management planning process which will be implemented by local fisheries managers to achieve those targets by the year 2000.

SPORT FISH

Objective To meet the demand for sport fishing consistent with the limits of an optimum sustainable yield.

Target The target for the Atikokan District is to meet the anticipated angling demand in the year 2000 of 120,000 angler days and to provide a sportfish harvest of 240,000 kg. per year at an angler satisfaction level of 2 kg. per angler day.

Discussion Analysis of the available information shows that the target of 240,000 kg. per year can be met by the year 2000, as it is less than the total allowable yield of 283,670 kg. per year for the District. This tells us that our fisheries resource appears capable of sustaining future harvest demand. This broad analysis does not enable the identification of several problems, such as underutilization of some species like smallmouth bass, lake whitefish, and yellow perch, and overharvest of other more desirable species like lake trout and walleye on some lakes. Some lakes receive a disproportionate amount of fishing pressure to the point of over-harvest, whereas others, such as those within Quetico Provincial Park, receive very little fishing pressure. Other problems related to loss of fish and fishing opportunities have been discussed in the "Problems and Issues" section.

Management Strategies and Tactics

S1 Maintain, protect and enhance sportfish communities, and provide new angling opportunities

- T1 Establish seasonal sanctuaries in areas where staging walleye are vulnerable to legal angling. Sanctuaries would be in effect from March 31 until April 14. Locations to be determined on a need basis.
- T2 Continue adult walleye transfer program to create self-sustaining walleye populations in suitable lakes.
- T3 Close lakes which have received adult walleye transfers to walleye angling for one to two years or longer if it appears to be necessary.
- T4 Do follow-up netting to determine success of past adult walleye transfers.
- T5 Continue to lend technical support to the Icy Lake walleye hatchery project run by the local Atikokan Sportsmen's Conservation Club.
- T6 Evaluate potential lakes for stocking with walleye produced at Icy Lake hatchery.
- T7 Implement the trophy northern pike/walleye regulations in 1990 whereby anglers will be allowed only 1 fish over 70 cm (28 inches)

for northern pike and 50 cm (20 inches) for walleye as part of their regular possession limit of 6 fish.

T8 Encourage tourist outfitters and members of the public (organizations) to become more involved in fisheries management on lakes they presently utilize; outfitters can enter into agreements with M.N.R. for fisheries management and self-regulations.

T9 Encourage Community Fisheries Involvement Program projects which are consistent with sound fisheries management and where there are educational benefits.

T10 Manage access and access roads according to guidelines in District Land Use Guidelines, "Timber Management for the Protection of Tourism Values", and "Environmental Guidelines for Access Roads and Water Crossings".

T11 See tactics which apply to lake trout.

S2 **Redirect angling pressure to other species.**

T1 Identify 2 lakes suitable for brook trout and stock with brook trout to provide put-grow and take fisheries. Lakes from Quetico Provincial Park excluded from this tactic.

T2 Promote angling for alternate underutilized species such as lake whitefish, bass, yellow perch and burbot.

S3 **Establish an assessment program on key District waterbodies.**

T1 Undertake a creel survey program to assess angler origin and harvest on selected stressed waterbodies.

T2 Establish a District index netting program to monitor status of fish populations in selected waterbodies.

T3 Continue the lake inventory program on unsurveyed waterbodies.

T4 Assess suitability of District lakes for adult walleye transfers, and brook trout stocking.

T5 Continue to cooperate with Quetico-Mille Lacs Fisheries Assessment Unit in studying the 7 lakes in Atikokan District, and conduct information exchanges. Three of the FAU's lakes are in Quetico Provincial Park.

S4 **Consider Quetico Provincial Park as a special fisheries management zone for fisheries management purposes. Management of the park will be incorporated into regular District fisheries management programs.**

T1 Continue to monitor fisheries populations on lakes within Quetico

Provincial Park within the context of normal fisheries management programs in the District.

T2 Cooperate with and encourage Quetico-Mille Lacs Fisheries Assessment Unit studies in the 3 study lakes in Quetico.

T3 Consider a separate fisheries management plan for Quetico Provincial Park. The 1982 Revised Park Policy identified the need for a separate plan, but if park concerns can be dealt with in the District fisheries management plan, there may be no need for a separate one.

S5 Work with the state of Minnesota to solve border water management problems.

T1 Continue to work with the state of Minnesota to streamline and consolidate regulations related to angling on the border waters between Ontario and Minnesota.

T2 Coordinate lake assessment activities (index netting, creel survey) on border waters between the two jurisdictions.

T3 Maintain cross-jurisdiction communication about fisheries management on border waters.

T4 Continue to cooperatively draft, implement, and enforce pertinent fisheries legislation of the two jurisdictions on border waters.

S6 Reduce illegal harvest of warmwater species, particularly walleye, in District waterbodies.

T1 Continue to enforce pertinent fisheries regulations to ensure protection of fisheries stocks.

T2 Priorize enforcement effort to provide enforcement coverage during known periods of vulnerability and illegal activity.

T3 Identify and rank areas where fish are known to be illegally harvested and are most vulnerable.

T4 Using rountine C.O. contacts, encourage public cooperation in reporting violations.

T5 Using C.O. visits to tourist establishments, encourage cooperation of camp owners in reporting violations and in getting client cooperation in obeying fisheries regulations.

T6 Continue to implement vehicle check stations to determine where fish are harvested and potential violations.

T7 Encourage compliance with the laws through education of user groups, through attendance by C.O.'s at user group meetings.

T8 Continue to use news media to advertise successful law enforcement efforts and convictions.

T9 Continue to enforce existing regulations in order to control accidental introductions of fish, particularly baitfish in Quetico Park and illegal smallmouth bass introductions.

LAKE TROUT

Objective To provide for the maintenance, protection and enhancement of lake trout populations and to provide recreational angling opportunities to the general public for this species, based on an optimum sustainable yield.

Target To produce 0.25 to 0.75 kilograms of lake trout per hectare per year from all lake trout waters. The District target is 34,550 kg. per year or 0.33 kg. per hectare per year.

Management Strategies and Tactics

S1 Maintain and protect lake trout fisheries.

T1 Set up a District assessment program to determine the extent of suspected overharvest in lake trout waters (ie. creel survey).

T2 Consider implementing the regulation being considered by Northwestern Region whereby non-residents who fish for lake trout would be required to be accommodated at a tourist establishment. Implications to Atikokan District would be evaluated.

S2 Maximize lake trout fishing opportunities by developing and studying innovative lake trout management techniques applicable to the specialized lake trout management zone (Zone 3).

T1 Develop innovative management techniques for specialized lake trout management zone, which could include:
- catch and release
- pulse fishing (allow angling every five or ten years)
- lowered possession limit
- gear restrictions such as barbless hooks
- no live bait
- trophy restrictions

- limited entry

Public involvement in the development of management techniques for this zone is essential. Implications to other Districts will be evaluated.

T2 Publicize the intent of this zone so that the angling public understands the need for restrictive management.

T3 Begin educational campaign stressing merits of catch and release of lake trout; see strategies and tactics dealing with public education.

S3 Redirect angling pressure to other species.

T1 See tactics under Strategy 3 under Sport Fish.

S4 Reduce illegal harvest of lake trout in District waterbodies.

T1 Priorize enforcement effort to provide enforcement capability during known periods of vulnerability and illegal activity.

T2 Continue to actively enforce existing legislation, particularly as it relates to illegal activities affecting spawning beds.

T3 See other tactics as they apply to warmwater species (Strategy 6 under Sport Fish)

COMMERCIAL FOOD FISHING

Objective To encourage the harvest of commercial fish when it is biologically and economically feasible.

Target (Food Fish) To produce 12,000 kg. of commercial food fish by the year 2000.

Discussion Commercial fishing is currently limited to one gill net fisherman on Sandpoint Lake, who has a quota for lake whitefish, lake sturgeon, an unlimited quota for cisco, suckers and burbot, and a quota for incidentally caught northern pike and walleye.

The estimated total allowable yield of whitefish for the District is 39,890 kg. per year (Table 2). A large portion of this estimate is from coldwater

lakes, lakes within Quetico Provincial Park and in small relatively inaccessible lakes. This potential harvest of whitefish would therefore be unavailable to commercial fishermen. The remaining 13,900 kg. of whitefish is produced in lakes where a commercial fishery could be economically feasible. Although no harvest statistics are available, it is believed that angling pressure for whitefish and lake herring (cisco) is negligible on most lakes.

Many participants in open house discussions expressed concern about incidental catch of preferred sportfish species. However, several local people showed an interest in obtaining a commercial fishing licence.

The conditions under which the MNR would be prepared to issue a commercial licence are:

- Any commercial fishing licence issued will specify the use of impounding gear (live trapping) only in order to reduce sportfish mortalities;
- The licence will initially contain a quota of 12,000 kg. of whitefish and, as yet, unspecified quantities of coarse fish species from specifically designated waterbodies (Appendix 3). There is a possibility that the whitefish quota might be increased should it prove biologically feasible.

No commercial fishing licence will be issued until such time as the economic viability of such a venture could be proven. Due to the nature of the fishing licence being considered, it is unclear whether or not additional commercial fishing operations in the Atikokan District would be profitable. Because of the uncertain nature of additional commercial fishing, the appropriateness of this target should be examined when the District Land Use Guidelines are reviewed.

Management Strategies and Tactics

S1 **Consider licencing additional lakes for commercial food fishing for lake whitefish.**

T1 Investigate the feasibility of issuing additional commercial fishing licences in Atikokan District.

T2 Consider issuing a commercial food fishing licence if the economic feasibility is proven and if there is a potential licencee, on a limited, experimental basis.

T3 Continue to monitor existing fishermen for compliance with fisheries regulations.

T4 Continue to monitor commercial catches, making adjustments in licence(s) in licence areas, quotas, transferral of licences, as appropriate.

S2 **Educate and communicate with the sports fish anglers and commercial fishermen to reduce potential conflicts between these two user groups.**

T1 Keep sports anglers informed as to the latest development in expanding commercial food fishing in Atikokan District.

T2 Maintain lines of communication between commercial fishermen and sports anglers, and attempt to resolve conflicts between the two user groups if they arise.

COMMERCIAL BAITFISHING

Objective To encourage the harvest of baitfish to meet the demands of sports fish anglers while managing baitfish stocks for a sustainable yield.

Target To meet the demand for baitfish in the year 2000.

Discussion The District baitfish industry was audited in 1986. It became apparent at that time that a reorganization of the District baitfish policy was necessary in order to address several common complaints and inconsistencies within the industry.

Prior to 1987, baitfish block sizes varied across the District. Licence holders of larger blocks, therefore, had access to more of the resource than licencees holding small blocks. It was decided, during the preparation of this plan, to standardize baitfish block size. Each licence holder was contacted on an individual basis to discuss this approach. There are now 72 relatively equal sized blocks in the District (formerly 45). It remains to be seen whether or not any new blocks will become available to potential baitfishermen in the near future.

The 1986 audit indicated that several block holders may not be utilizing their blocks. Potential fishermen are denied access to the baitfish industry, due to the unavailability of underutilized blocks.

Several licence holders have expressed an interest in modernizing harvest techniques and managing waterbodies specifically for baitfish. However, they lack a source of information on these subjects.

Management Strategies and Tactics

S1 Continue to refine present baitfish harvest system.

- T1 Educate licence holders of modern harvest and baitfish pond management techniques. During the 1986 audit several licence holders requested such information. Information packages and workshops will be provided for dissemination of information.
- T2 Standardize harvest reporting across the District. The 1986 audit indicates that licence holders across the District employ varied methods of measuring harvests, minnow sizes etc. By organizing a meeting between the Ministry and local baitfishermen, inconsistencies will be corrected.
- T3 Establish baitfish harvest quotas and conduct audits of licence holders suspected of not utilizing baitfish blocks. Potential baitfishermen should not be deprived of an opportunity to become involved in the industry, while licence holders underutilize their blocks.
- T4 Maintain and improve lines of communication between harvesters,

dealers and M.N.R. managers.

T5 Encourage the diversification of the local baitfish industry to establish new markets/products (ie. freeze-dried bait, local market for lake herring).

ENVIRONMENTAL QUALITY/HABITAT LOSS

Discussion There are few industrial pollution problems affecting fisheries because there is little industrial development in Atikokan District. The construction of iron ore mines in the 1960's and the Ontario Hydro coal-fired generating plant has resulted in some major but localized changes to fisheries habitat in the past. Man-caused water level fluctuations is the main factor affecting fisheries habitat.

Management Strategies and Tactics

S1 Maintain and protect warmwater fisheries habitat.

T1 Continue to update District sensitive areas binder as information on timber operations and sensitive fisheries habitat becomes available (Binder is used as basis of fish and wildlife input into timber management plans).

T2 Continue to provide input into timber management plans and road construction as information becomes available.

T3 Continue to incorporate shoreline reserves into timber operating plans as per the guidelines in DLUG, and Timber Management Guidelines for the Protection of Fish Habitat.

T4 Encourage Community Fisheries Involvement Program (CFIP) projects for fish habitat enhancement which are consistent with sound fisheries management principles.

T5 Upgrade walleye spawning beds where conditions have deteriorated through physical modification because of road or dam construction.

T6 Continue to update habitat inventory information by collecting information on critical habitat areas, such as spawning areas for walleye and lake trout.

T7 Continue to enforce pertinent fisheries legislation to ensure

protection of fisheries habitat.

S2 Reduce the negative impact of water level fluctuations on spawning activity of sports fish.

T1 Encourage intra- and inter-agency cooperation in water level management to assess or define acceptable water levels to benefit sports fish on specific waterbodies.

T2 Evaluate desirable water level regimes where water level control is a problem. Identification of the new area and types of impacts is necessary.

T3 Encourage the use of computer models to minimize unnecessary drawdowns.

S3 Maintain and protect lake trout habitat.

T1 Apply "Timber Management Guidelines for the Protection of Fish Habitat" to protect habitat and water quality on lake trout lakes during planning and implementation of timber management operations.

T2 Review status of prime lake trout lakes (Appendix 1) and update/revise list according to most up-to-date information.

T3 Participate in and encourage the development of guidelines for cottage development on all lakes, including lake trout lakes.

T4 Work with staff from Lands Branch to assess potential and existing camp developments and proposals for other uses on lake trout lakes.

S4 Monitor contaminants in sports fish species in District waterbodies.

T1 Continue to cooperate with the Ontario Ministry of the Environment in monitoring sports fish for the presence of contaminants.

T2 Consider catch and release fisheries on lakes where contaminants are a problem.

COMMUNICATION WITH THE PUBLIC

Discussion Communicating with the public and public education is a vital component of any fisheries management program. The demand for information related to fisheries management by the public is increasing. Public participation is important in achieving fisheries management objectives and

encouraging public participation in innovative management programs and in volunteer programs will be stressed.

Management Strategies and Tactics

S1 Promote an increased understanding of the District's fishing potential and fisheries management programs, including regulation changes.

- T1 Develop more information on fishing in Atikokan District for public use.
- T2 Develop public information programs on each fisheries project as it is implemented.
- T3 Improve staff training in public information.
- T4 Host workshops or public meetings on local fisheries management problems and solutions.
- T5 Promote staff education by holding regular staff meetings to inform staff and bring them up to date.
- T6 Continue to provide information to anglers, school groups, etc on fisheries management or biology questions.

USER CONFLICTS

Discussion Conflicts between users of the resource occur between resident (local) and non-resident anglers primarily as a result of the view held by local anglers that non-residents are in competition with them for limited resources. However, tourism is very important to the local economy. Conflicts have also developed in association with the expanding network of forest access roads which affect remote tourism on fly-in lakes and creates new access to remote lakes for resident anglers.

Management Strategies and Tactics

S1 Reduce conflicts between residents and non-resident anglers and tourist outfitters.

- T1 Continue to promote the benefits of tourism to the local economy.
- T2 Continue to monitor non-resident use of the fisheries resource.

T3 Consider expanding the Border Water Angling Validation Tag program to areas of Atikokan District. Areas being considered are fisheries management zone 5 and the border waters of Quetico Provincial Park. Fee is currently $3.00 per day per person and currently applies to non-residents who are not accommodated at a tourist facility in Ontario fishing in the Rainy Lake/Lake of the Woods area. Implications to other Districts and to local businesses would be evaluated.

T4 Consider implementing other special restrictions for non-residents if it proves necessary. Public consultation will be necessary.

T5 See special restrictions which could apply to non-residents fishing for lake trout in northwestern Ontario (Strategy 1, Tactic 2 under Lake Trout).

LACK OF SCIENTIFIC AND TECHNICAL KNOWLEDGE

Discussion Lack of scientific and technical knowledge has been identified as an important problem that affects effective delivery of fisheries management programs. Public review of the planning process to date has shown this to be a major area of concern. In addition to a lack of lake specific information on angler use and harvest and fish communities, there is also a need for information on general fisheries ecology and management principles which can be applied to District situations.

Management Strategies and Tactics

S1 Increase the information base for District Waterbodies and fish populations.

T1 Conduct aquatic habitat inventories on priority waters, including border water lakes, potential brook trout and walleye stocking lakes, and newly accessed lakes.

T2 Use index netting to determine information about fish communities in prominent lakes.

T3 Use creel survey to determine angler use and harvest information on lakes suspected to have overharvest problems.

T4 Investigate Experimental Management and other sources of funding for investigative projects.

T5 Use innovative techniques to gather information on angler use where appropriate (ie. questionnaire for Quetico Provincial Park users).

S2 Encourage and support scientific studies to increase our knowledge on fisheries ecology and management.

T1 Participate in the development of studies to fill in information gaps.

T2 Support and stimulate research and assessment by the Quetico-Mille Lacs Fisheries Assessment Unit.

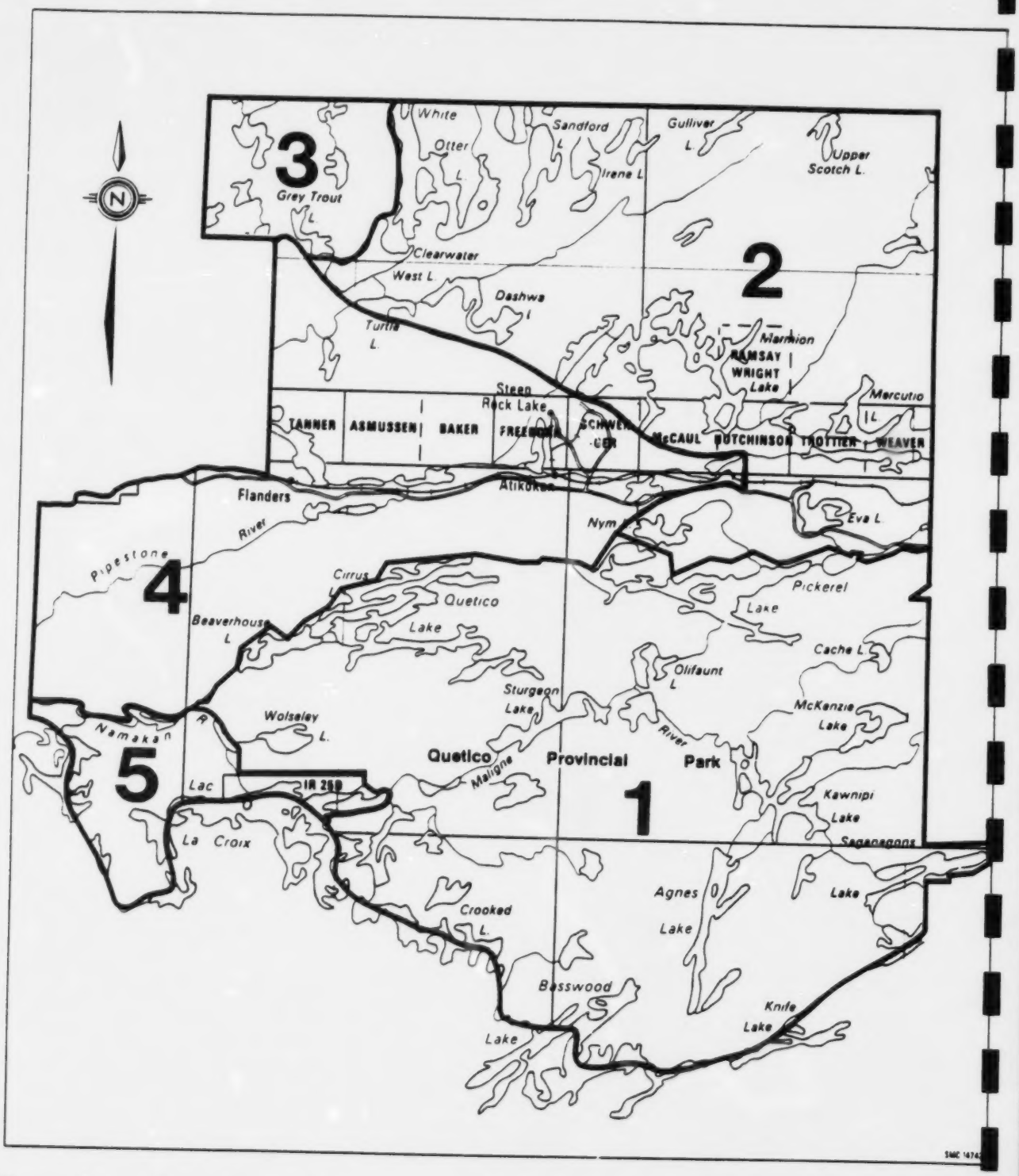
3.3 Fisheries Management Zones

The decision to divide Atikokan District into fisheries management zones was made because management concerns are unequally distributed across the District. Five zones were created, and effort was made to coordinate the zones with surrounding Districts and Regions so that zone boundaries would be continuous and meaningful across District boundaries. Each zone represents an area with common characteristics and management problems. The following zone descriptions include the fish species distribution, management considerations, access, and a list of the strategies and tactics which will apply to each zone.

Zone 1: Quetico Provincial Park

Zone 1 (see Figure 3) corresponds to the boundaries of Quetico Provincial Park, which makes up 42% of the District's surface area. There are no mechanized forms of travel permitted within Quetico, except for trappers and members of the Lac la Croix Indian Guides Association who are allowed to use motors up to 10 hp. on seven waterbodies (Wolseley Lake,

Figure 3. Fisheries Management Zones, Atikokan District



10 0 10 20 30 km
5 0 5 10 15 20 m

Tanner Lake, Minn Lake, McAree Lake, the Maligne River from Lac la Croix to Tanner Lake, Quetico Lake, Beaverhouse Lake) for guiding purposes. Northern park entry is through the French Lake, Nym Lake and Beaverhouse Lake Ranger Stations. There is direct road access to the park at French Lake and Beaverhouse Lake.

Quetico Park has abundant lakes, including many cold, deep lake trout lakes. Walleye, smallmouth bass and northern pike abound, and a very good population of lake sturgeon exists in Sturgeon Lake. A list of prime lake trout lakes found in Quetico is included in Appendix 1.

Management direction for the fisheries of Quetico stems from the Quetico Park Master Plan (1977). Revised park policy released in 1982 following a review of the Master Plan allows for the following conditions affecting fisheries in the Park:

> "...the manipulation of limits and seasons will comprise the major fisheries management tool employed within Quetico."
>
> "Commercial fishing will not be permitted in Quetico."
>
> "The introduction of non-native species will not be permitted."
>
> "...the removal of species for stocking programs outside the park and the collection of fish spawn will not be permitted."
>
> "...the possession of live baitfish will not be permitted."

Use of the park's fisheries is restricted to sports angling by canoeists, walk-in ice fishermen or tourists who use the Lac la Croix guides. In addition, there is an entry quota system that restricts the number of park users, so the impact that anglers may have on the fisheries resource is minimal. As previously noted, overharvest is not suspected to be a problem on Quetico's lakes except for the two road-accessible lakes which experience higher fishing pressure. The south border of Quetico Park is shared with the

state of Minnesota. It is expected that standardization of regulations and coordination of studies between the two jurisdictions will continue.

Fisheries Management Direction

Management intent for this zone is currently directed by the Quetico Provincial Park Master Plan (1977) and Revised Park Policy (1982). The 5 year review is being done at the present time, and although no major changes are anticipated, there could be a requirement for the preparation of a separate fisheries management plan for Quetico.

Fisheries management strategies and tactics which apply to this zone are summarized on the following page.

SUMMARY OF MANAGEMENT STRATEGIES AND TACTICS WHICH APPLY TO ZONE 1

Category	Strategies	Tactics
Sport Fish	maintain, protect and enhance sportfish communities	-establish sanctuaries to protect staging walleye -implement trophy pike/ walleye regulation
	redirect angling pressure	-promote angling for alternate species
	establish assessment program	-increase information base on fish populations (index netting) angler harvest and use (creel survey) in Quetico Park
	designate Quetico Provincial Park as a special fisheries management zone	-monitor and study fish populations -prepare species fisheries management plan for Quetico
	coordinate border water management with Minnesota	-work with Minnesota to solve problems and maintain cross-jurisdiction communication
	reduce illegal harvest	-priorize and coordinate enforcement effort -continue to enforce pertinent fisheries regulations

Category	Strategies	Tactics
Lake Trout	maintain and protect lake trout fisheries	-study lake trout harvest -consider regulating angling by non-residents (accommodation at tourism establishment)
	redirect angling pressure	-promote angling for alternate species
	reduce illegal harvest	-priorize and coordinate enforcement effort -continue to enforce pertinent fisheries regulations
Environmental Quality/ Habitat Loss	maintain and protect fisheries habitat	-collect information on sensitive fisheries habitats in Quetico
	monitor contaminants	-continue to cooperate with OMOE
Communicating with the Public	promote understanding of Quetico Park's fisheries potential and management programs	-develop more information on fishing and fisheries of Quetico
User Conflicts	reduce conflicts between resident and non-resident anglers and tourist outfitters	-educate various user groups -promote benefits of tourism -consider expanding Border Water Angling Validation Tag to border

Category	Strategies	Tactics
		-consider special restrictions for non-residents fishing lake trout
Lack of Scientific and Technical knowledge	increase information base	-use appropriate studies to assess angler use of Park lakes
	encourage and support scientific studies	-support Quetico-Mille Lacs FAU

Zone 2

This zone is located in the northeast corner of the District with Quetico Provincial Park as a boundary in the south, the Bending Lake Highway in the southwest and Thunder Bay and Ignace District boundaries in the east and north respectively. It is continuous with Ignace District Zone 21 with similar lakes and management objectives. This zone features a high predominance of prime lake trout lakes; most of the lakes located outside Quetico are located in this zone. Other lakes contain walleye, northern pike and smallmouth bass.

Timber harvest is ongoing in this zone. Part of the Sapawe Crown Management Unit is located here. Timber harvest roads now access much of this area, although there are still some remote tourism opportunities here, and many lakes are not directly accessed by a road. There are many tourist operators in this zone who feature fly-in fishing trips. Some of the lakes in this zone are highlighted for cottage development, and crown land camping is allowed in designated areas.

Fisheries Management Direction

Lake trout, particularly in prime lake trout lakes, and walleye are important species in this zone, and management will concentrate on these species. Collecting the necessary assessment information for this area is of priority here because over-harvest is a suspected or potential problem on several well-accessed or newly accessed lakes. Tourism and cottage development are expected to increase in the future, and development pressures on prime lake trout lakes are also expected to increase. Increasing cottage development will make it necessary to focus greater attention on fisheries habitat problems in the future. Tourism development will be according to

Atikokan's District Land Use Guidelines, which describes a commitment to protect remote angling opportunities for all resource users.

Fisheries management strategies and tactics which apply to this zone are summarized on the following pages.

SUMMARY OF MANAGEMENT STRATEGIES AND TACTICS WHICH APPLY TO ZONE 2

Category	Strategies	Tactics
Sport Fish	maintain, protect and enhance	-establish sanctuaries to protect staging walleye -continue walleye transfer program -encourage CFIP -implement trophy walleye/pike regulations -encourage involvement by public in fisheries management
	redirect angling pressure	-stock brook trout in 3 lakes -promote angling of alternate species
	establish assessment program	-increase information on fish populations (index netting) and angler use and harvest (creel survey) -continue lake inventory program
	reduce illegal harvest	-priorize and coordinate enforcement effort -continue to enforce pertinent fisheries regulations

Category	Strategies	Tactics
Lake Trout	maintain and protect lake trout	-study lake trout harvest -consider regulating angling by non-residents (accommodation at tourist establishment)
	redirect angling pressure	-promote angling for alternate species
	reduce illegal harvest	-priorize and coordinate enforcement effort -continue to enforce pertinent fisheries regulations
Commercial Fish	consider expansion of commercial fishing for lake whitefish	-study feasibility and licence on experimental basis
	educate and communicate with user groups to reduce conflicts	-keep all user groups informed -maintain lines of communication
Commercial Baitfish	continue to refine baitfish system	-continue to standardize reporting, develop quotas, and communicate/ educate harvesters

Category	Strategies	Tactics
Environmental Quality/ Habitat Loss	maintain and protect fisheries habitat	-collect habitat information and input into resource management planning (timber, cottages) -enforce regulations and apply guidelines to protect habitat and water quality during timber management operations -encourage CFIP
	reduce negative impact of water level fluctuations	-encourage cooperation in water level management
	monitor contaminants	-continue to cooperate with OMOE
Communicating with the Public	promote increased understanding of fisheries potential and fisheries management programs	-develop more information on fishing and fisheries management for public use -improve staff training
User Conflicts	reduce conflicts between resident and non-resident anglers and tourist	-educate various user groups -promote benefits of tourism -consider special restrictions for non-residents fishing lake trout

Category	Strategies	Tactics
Lack of Scientific and Technical Information	increase information base	-use appropriate studies to assess angler use of District waterbodies and fish populations
	encourage and support scientific studies	-support Quetico-Mille Lacs FAU

Zone 3

This zone is a specialized lake trout management zone. It is located in the northwest corner of the District. The zone includes 21 lake trout lakes, 5 of which are in Fort Frances District (Mount, Pettit, Sandbeach, Silvertip and Roughstone Lakes). The sixteen lakes managed by Atikokan District are:

Lake Name	Area (ha)
Crook (s)	156
Grey Trout	1298
Heuston	349
Kingfish	427
Little Grey Trout (s)	150
Pekagoning	1320
Peterson	281
Rutter (s)	338
Secret (s)	149
Sedgwick	654
5PB10-20 (unnamed)	57
5PB10-26 (unnamed)	30
5PB10-39 (unnamed)	37
5PB10-42 (unnamed)	26
5PB10-80 (unnamed)	55
5PB10-93 (unnamed)	135

All named lakes are prime lake trout lakes.

This zone was delineated because of some special management problems created by new access to some very small lake trout lakes, although some large lake trout lakes are included here. The small lakes in particular have a very low productivity and this in combination with their small size means that they have a very low annual yield. One or two daily limits could remove the yearly yield on some of these lakes. Innovative management of these lakes

will be necessary to preserve their integrity. Although specific management tactics for these lakes have not been developed, several ideas are being considered for implementation. These lakes could make ideal experimental management projects.

Fisheries Management Direction

Fisheries management in this zone will emphasize lake trout. Ideas for innovative management to assess and limit the harvest of lake trout will be the main thrust of management here. Public consultation will occur before any innovative measures are taken. Many of these lakes are important to the tourism industry, and tourism will continue to be a focus of attention in accordance with the Atikokan District Land Use Guidelines.

Fisheries management strategies and tactics which apply to this zone are summarized on the following page.

SUMMARY OF MANAGEMENT STRATEGIES AND TACTICS WHICH APPLY TO ZONE 3

All strategies and tactics which apply to Zone 2 also apply to Zone 3 , plus:

Category	Strategies	Tactics
Lake Trout	specialized lake trout management zone	-develop innovative lake trout management techniques, including: -catch and release -pulse fishing -lowered possession limit -gear restrictions (barbless hooks, single hooks) -education of users on intent of program

Zone 4

Zone 4 is the zone to the west of Quetico Provincial Park and basically south and west of zones 2 and 3. Compared to the rest of the District, there are relatively few lakes in this zone and those that do exist are predominantly warmwater lakes containing northern pike, walleye and smallmouth bass. Road access is fairly well developed to most of this area, although not necessarily to individual lakes. This area is part of the Flanders Crown Management Unit and logging is ongoing here. There are few tourist operators in this area except along Highway ll. An increase in tourism is only expected as road access through logging is developed. This zone is continuous with Fort Frances' zone 6.

Fisheries Management Strategy

Management directed towards enhancing warmwater species is the intention for this zone. Some lakes are thought to have over-harvest problems. Cottage development and tourist lodges will generally be encouraged for this area (DLUG). Assessment of the harvest situation in key waterbodies will be the priority here.

All strategies and tactics which apply to Zone 2 also apply to Zone 4. Warmwater sports fish management is the emphasis of this zone.

Zone 5

This zone includes the lakes and rivers south of the north shore of the Namakan River. This zone is continuous with Fort Frances zone 7. Virtually all of the fishing pressure is from non-residents who enter this area from the border area. Day use of this area is high. At the current time, there are some cottages in the area and a few tourist lodges on the Canadian side. There are several lake trout lakes, including Lac la Croix, and most lakes in this zone contain smallmouth bass. Fishing pressure and boat traffic can be heavy on border lakes (ie. Sandpoint, Lac la Croix).

Fisheries Management Direction

Slight increases in cottaging and tourism are projected for this area. Fort Frances District is proposing to expand the Border Water Angler Validation Tag program from Rainy Lake east to include Namakan Lake. Because Atikokan District experiences the same problem of non-residents who catch Ontario fish on day trips but bring no economic returns to Ontario, it is suggested this program could be expanded to include Zone 5 and the border waters of Quetico Provincial Park. Evaluation of this tactic in light of the impact on local businesses would be necessary.

Fisheries management strategies and tactics which apply to this zone are summarized on the following page.

MANAGEMENT STRATEGIES AND TACTICS FOR ZONE 5

All strategies and tactics which apply to Zone 2 also apply to Zone 5, plus:

Category	Strategies	Tactics
Commercial Fish	monitor existing commercial fishery	-make adjustment in licences, quotas, etc., as necessary
User Conflicts	reduce conflicts between residents and non-residents	-consider expanding Border Water Angling Validation Tag to all waters of this zone

4.0 FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE

The previous section has outlined the broad management strategies and tactics which will be applied until the year 2000 to achieve the targets outlined in DLUG and in this fisheries management plan. The implementation schedule lays out which management activities, as directed by the strategies and tactics, will be achieved in the five year period from 1988 to 1992. The waterbody where the activities are to occur and the year when they are expected to occur are outlined in as much detail as is available at the present time. This schedule will be updated prior to 1992 for the next 5 year period.

Current fisheries budgets (including revenues from the new Resident Sport Fish Licence) are used to derive the implementation schedule. Three levels of funding are addressed; the first is the program which would occur if the fisheries budget remains the same (high priority), and the next is that which would occur if budgets were increased by 25% (medium priority), and the third level is low priority tactics. In 1988, Resident Sport Fish Licence (RSFL) funding was the only source of funding for fisheries management programs other than administration and fisheries enforcement in Atikokan District, so therefore all projects marked as "high" priority are to be accomplished with RSFL funding or with existing staff. All tactics proposed in this Implementation Schedule will be subject to the requirements of the Environmental Assessment Act.

The implementation schedule is summarized in Table 3.

Table 3. Fisheries Management Implementation Schedule, 1988-1992, Atikokan District

High	=	High priority, can be accomplished with existing funds
Medium	=	Medium priority, can be accomplished with additional funds or priority is determined by other factors
Low	=	Low priority

Management Strategies	Location	Year of Implementation	Priority
SPORT FISH			
establish sanctuaries to protect staging walleye	All waterbodies where appropriate	1989	High
continue adult walleye transfers	Lerome Turtle Spoon Eye Others	1988 1989	High
assess the success of past adult walleye transfers	Caribus Wilson Osinawi Lerome Turtle Spoon	1989 1989 1991 1991 1991 1991	High
evaluate potential lakes for stocking with walleye produced at Icy Lake hatchery	Chase Frederickson Bewag Sunshine Others	1988- 1989	High
implement trophy size limit for northern pike and walleye proposed for Division 22	All waterbodies	1990	High

Management Strategies	Location	Year of Implementation	Priority
encourage CFIP	District-wide	1988-1992	High
determine 2 lakes suitable for brook trout stocking	District-wide except Quetico; potential lakes include Skip, Pal, Geiger, Gillnet, Warner and others	1988	High
stock 2 lakes with brook trout	unknown lakes; see above	1990	High
conduct creel survey program to assess harvest on warmwater lakes	Mercutio	1988	Medium
	Marmion	1989	High
	Finlayson	1989	High
	Calm/Perch chain	1990	High
	Pinecone	1991	High
	Keewatin	1991	High
	Old Man	1992	High
conduct voluntary creel in Quetico Prov.Park	Quetico Prov. Park	1989	Medium
conduct index netting to assess status of fish populations	10 lakes	1988	High
study lake sturgeon to assess minimum size limit	Sandpoint	1989-1992	Low
continue lake inventory program on unsurveyed lakes	District-wide (15 lakes per year)	1989-1992	High
determine lakes suitable for adult walleye transfers	District-wide except Quetico	1988	High
monitor fish populations of Quetico Prov. Park	Quetico Prov. Park	1992	Low

Management Strategies	Location	Year of Implementation	Priority
complete fisheries management plan for Quetico Prov. Park if necessary	Quetico Prov. Park	1988	Medium
standardize regulations on border waters between Ont. and Minnesota	Border waters, including Quetico	1988-1992	High
LAKE TROUT			
conduct creel survey to assess harvest on coldwater lakes	Crystal Factor McCauley Nym Van Nostrand	1992 1992 1992 1992 1991	High
implement Northwest Region's regulation which would require non-resident lake trout anglers to be accommodated at a tourist establishment	All waterbodies	?	High
develop specialized lake trout management techniques for lakes of Zone 3	Fisheries Mgmt. Zone 3	1988/89	High
COMMERCIAL FOOD FISHING			
continue to monitor existing commercial food fishery	Sandpoint	ongoing	High
investigate the economic/biological feasibility of additional commercial fishing	Calm, Chub Banning, Perch Finlayson Marmion, Icy North Twin Husband, Sapawe Crooked Pine Mercutio, Melema	1988 and ongoing	Low

Management Strategies	Location	Year of Implementation	Priority
educate and communicate with sports anglers and potential commercial fishermen through press releases, information packages, etc.	as above	ongoing	High
COMMERCIAL BAITFISHING			
hold workshops for baitfish harvesters on modern harvest and management techniques	District-wide	1988	High
standardize harvest reporting	District-wide	1988-1989	High
establish baitfish harvest quotas	District-wide	1988-1989	High
ENVIRONMENTAL QUALITY/ HABITAT			
update District habitat binder	District-wide except Quetico	ongoing	High
provide input into timber management plans	District-wide except Quetico	ongoing	High
encourage CFIP	District-wide except Quetico	ongoing	High
upgrade walleye spawning beds where they have deteriorated	District-wide except Quetico	ongoing	Medium
collect information on critical fisheries habitat	District-wide	ongoing	High
participate in development of guidelines for cottaging on non-prime lake trout lakes	District-wide except Quetico	1988-1989	High

Management Strategies	Location	Year of Implementation	Priority
continue to cooperate with OMOE in monitoring fish for contaminants	District-wide	ongoing	Medium
develop water level management guidelines for waterbodies affected by water level fluctuations	District-wide	1988 and ongoing	High
COMMUNICATING WITH THE PUBLIC			
produce District fishing brochure	District-wide	1989	High
hold workshop on angling for alternate species	District-wide	1989	High
produce information leaflet on alternate angling techniques	District-wide	1989	High
consider expanding Border Water Angling Validation Tag to areas of Atikokan District	Fisheries Mgmt. Zone 5, border waters of Quetico Provincial Park	1988-1992	High

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GLOSSARY

Allowable Yield

The amount of preferred fish in kilograms that can be harvested annually on a sustained basis; it results from partitioning the potential yield.

Angler Day

An angler day is considered to be four hours long.

Baitfish

Fish that are legally harvested by the baitfish industry, including any member of the minnow family Cyprinidae, except carp and goldfish; the mudminnow family Unbridae; the stickleback family Gasterosteidae; the trout-perch family Percopsidae; the sculpin family Cottidae; the genus Coregonus of the whitefish family Coregonidae and the darter sub family Etheostomatinae; and the sucker family Catostomidae.

Boat Cache

One or more boats left unattended on Crown Land.

Coarse Fish

Fish species which are not normally sought by recreational anglers. This commonly includes fish from the families Catostomidae (suckers), Ictaluridae (catfish), Gadidae (cods) and Sciaenidae (drums).

Coldwater Lakes

Those lakes having characteristics which would support Salmonids like lake trout and brook trout.

Coldwater Streams

Those streams having characteristics which would support Salmonids like brook trout.

Commercial Food Fish

Any fish that are legally harvested by the commercial fishing industry and

marketed for human consumption. These include cisco, suckers, lake sturgeon, ling, and lake whitefish in Atikokan District.

Commercial Tourism Operation

Includes main base lodges, outpost camps and associated boat caches.

Creel Survey

A survey of anglers to determine angler origin, species of fish caught, weights of fish and number of hours fished. Other information such as gear being used and information on the age of fish may also be collected.

Exotic Fish Species

A fish species which is not native to waters within the Province of Ontario.

Fish Community

A combination of different fish species living and interacting together in the same body of water.

Indigenous Fish Species

The native fish species which occur naturally in a waterbody.

Naturalized Fish Species

A fish species which was not indigenous to a particular waterbody but was introduced and has become established through natural reproduction.

Non-Resident

An angler whose principle residence is outside of Ontario.

Objective

A quantifiable and attainable end which is to be achieved.

Outpost Camp

Housekeeping accommodations usually in remote areas with limited access.

Potential Yield

The amount of fish flesh that can be removed from the water on a sustained (annual) basis. The term is synonymous to maximum sustainable yield, maximum equilibrium yield and theoretical yield.

Rehabilitation

This term may be applied to both fish populations and fisheries habitat. In both instances rehabilitation denotes efforts to enhance or restore a degraded or stressed situation to its original condition.

Resident

An angler whose principle residence is in Ontario. (A local resident angler would be one who can fish an area on a day-use basis, i.e. travels to the area, fishes and returns home on the same day).

Sport Fish

Top predator fish species which are sought, and may legally be taken by angler. In Atikokan District this usually includes fish from the families Salmonidae (lake trout), Percidae (walleye and yellow perch), Esocidae (northern pike), Centrarchidae (smallmouth and largemouth bass), and Coregonidae (lake whitefish).

Stock

A species group or population of fish which maintains and sustains itself over time and may be identified by distinct genotypic or phenotypic characteristics.

Strategy

Planned actions or measures designed to achieve a desired end.

Tactic

A specific method designed to achieve one or more strategies.

Target

A quantified end to be achieved or completed by a specific date.

Tourism

The business of attracting visitors and catering to their needs and expectations. Visitors are the travellers who will return home after their visit and who may return to pay another visit.

Tourist Operation

An establishment or facility which consists of any one or a combination of any of the following: cabin establishment, camping establishment, cottage establishment, hotel, motor hotel, motel, outpost camp, resort or boat cache, guiding or outfitting and is generally in the tourism business.

Under-Producing Waters

Lakes and/or streams which, for some reason, are not producing at their estimated biological potential.

Warmwater Fish Community

Fish populations comprised primarily of the family Centrarchidae (smallmouth and largemouth bass), Esocidae (northern pike and muskellunge), and Percidae (walleye and yellow perch).

APPENDICES

APPENDIX 1. PRIME LAKE TROUT LAKES, INCLUDING THE LAKES OF QUETICO PROVINCIAL PARK

Abbess
Adele
Agnes *
Antoine *
Argo *
Basswood *
Batchewaung *
Beaverhouse *
Bethune
Birch *
Bow
Brent *
Buckingham *
Burke *
Burntside *
Burt *
Cache *
Cache Bay *
(Saganaga Lake)
Campus +
Carp *
Cirrus *
Clearwater West
Cole
Cone *
Crook
Crooked *
Crowrock
Cypress *
Darky *
Dashwa
David
Dibble +
Doan
Dore *
Dragon
East Campus +
Elbow
Elk *
Elsie
Emerald *
Emery
Ferguson *
Flora
Forsberg
French *
Gamble
Glacier *
Grey Trout
Gulliver +
Hardtack
Herb
Heuston
Irene
Jean *
Jeff *
Jim
Joe
Joyce *
Kahshahpiwi *
Kasakokwog *
Keefer *
Kett *
Kingfish
Knife *
Lac la Croix
Lilac
Little Gull
Little Grey Trout
Little Irene
Little Sandford
Louisa *
Mabel
McAree *
McAlpine *
McCaulay
McDougall *
McEwan *
McIntyre *
McNiece *
Milk
Monte
Mount #
Narrow
Nest *
Nevison
Niven
No Man *
Nora +
Olifaunt *
Oriana *
Other Man *
Owl
Pekagoning
Peterson
Pickerel *
Plough *
Poacher *
Pond *
Poohbah *
Quetico *
Ram *
Rawn *
Red Paint
Riverview
Robinson *
Roland *
Roughstone #
Rutter
Saganagons *
Sandford
Sarah *
Sark *
Secret
Sedgwick
Serpent
Shade *
Sheridan *
Side *
Silence
Silvertip #
Soho *
Sparkle
Spring
Sunday *
That Man *
This Man *
Tilly *
Thompson
Trout
Tuck *
Van Nostrand
Walt
Walter *
Wasp
White Otter
Yum Yum *
5PB17-82
(Bow,S.of)

* Denotes lakes within Quetico Provincial Park boundaries
\+ Denotes lakes for which management responsibilities rest with Ignace Administrative District
\# Denotes lakes for which management responsibilities rest with Fort Frances Administrative District
Potential lakes for inclusion on this list include 5PB10-020, -026, -039 and -042 (unnamed lakes)

APPENDIX 2. OTHER LAKE TROUT LAKES (From DLUG)

Como
Crystal
Eva
Eye
Factor
Gargoyle
Marion
Niobe
Norway
Nydia
Nym
Turtle
Upper Scotch
Warner
Windigoostigwan

APPENDIX 3. POTENTIAL WHITEFISH FISHERIES, ATIKOKAN DISTRICT

Lake Name	Whitefish Annual Allowable Yield
SEINE RIVER:	
Calm	1,100
Chub	120
Banning	150
Perch	510
NEAR ATIKOKAN:	
Finlayson	1,080
Marmion	8,010
Icy	110
North Twin	190
Husband	120
SAPAWE AREA:	
Sapawe	390
Crooked Pine	1,080
Mercutio	870
Melema	170
TOTAL	13,900

APPENDIX 4. ATIKOKAN DISTRICT ADULT WALLEYE TRANSFER PROGRAM

Year	Donor Lake(s)	Recipient Lake	No. of Fish
1983	Marmion	Caribus	55
1984	Wife	Caribus	7
	Crooked Pine	Caribus	89
		Wilson	178
		Spoon	45
1985	Sapawe	Osinawi	108
		Lerome	27
		Spoon	16
1987	Sapawe	Osinawi	31
	Marmion	Turtle	6
	Williamson	Turtle	40

APPENDIX 5. SUMMARY OF PUBLIC CONSULTATION

TABLE 1: PUBLIC CONSULTATION INITIATIVES

What	How	When	No. in Attendance
Newspaper Ad: Public Notice of Preparation of Fisheries Management Plan	Atikokan Progress Fort Frances Thunder Bay Chronicle	Oct. 22,1986 Oct. 22,1986 Oct. 24,1986	
Newspaper Ad: Invitation to Open House	Atikokan Progress	Nov. 18,1986	
Letter of Invitation: Open House for Background Information Document	Mail	Nov. 13,1986	
Open House (Background Information)	Moose Lodge,Atikokan Atikokan Dist.Office	Nov. 24,1986 Dec. 3,1986	18 8
Meeting: Atikokan Sportsmen's Conservation Club	Atikokan High School	Dec. 2,1986	
Letter to Baitfish Licence Holders	Mail	Dec. 15,1986	
Newspaper Ad: Invitation to Open House	Atikokan Progress		
Open House (Draft Plan)	Moose Lodge,Atikokan	July 15,1987	
Fact Sheet	Mail, Hand out	July 1987	
Meeting: Atikokan Sportsmen's Conservation Club	Atikokan Court House	July 7,1987	8

What	How	When	No. in Attendance
Letter of Invitation: Open House for Draft Plan	Mail	July 7,1987	
Newspaper Ad: Invitation to Open House	Atikokan Progress	Feb. 24,1988	
Community Announcement Bulletin	Television	Feb. 1988	
Letter of Invitation: Public Meeting for Revised Draft Plan	Mail	Feb. 11,1988	
Letter: Accompanying Revised Draft Plan	Mail	Feb. 24,1988	
Public Meeting (Revised Draft Plan)	Moose Lodge,Atikokan	Feb. 29,1988	40
Meeting: Atikokan Sportsmen's Conservation Club	Atikokan High School	March 1,1988	25

TABLE 2: PUBLIC RESPONSES TO COMMUNICATIONS INITIATIVES

DOCUMENT	NO.DISTRIBUTED	NO. RESPONSES
Background Information	140	28
Draft Plan	140	23
Revised Draft Plan	150	26

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